MASTER INDEX

Volumes 181–190

AUTHOR INDEX

Amati, D., Gravity from strings 184 (1989) 105
Anderson, P.W., Problems and issues in the RVB theory of high T_c superconductivity 184 (1989) 195

Ball, R.D., Chiral gauge theory 182 (1989) 1
Bass, F.G. and N.N. Nasonov, Nonlinear electromagnetic–spin waves 189 (1990) 165
Bilal, A., The three-dimensional Ising model and superstring theory 184 (1989) 113
Bogdanov, A.V., G.V. Dubrovskii, Yu.E. Gorbachev and V.M. Strelchenya, Theory of vibrational and rotational excitation of polyatomic molecules 181 (1989) 121
Bonnor, W.B., A.K.G. de Oliveira and N.O. Santos, Radiating spherical collapse 181 (1989) 269
Brockmann, R., *see* E. Oset 188 (1990) 79
Bulanov, S.V., L.M. Kovrizhnykh and A.S. Sakharov, Regular mechanisms of electron and ion acceleration in the interaction of strong electromagnetic waves with a plasma 186 (1990) 1

Cassing, W., V. Metag, U. Mosel and K. Niita, Production of energetic particles in heavy-ion collisions 188 (1990) 363
Chatterjee, A., Large-N expansions in quantum mechanics, atomic physics and some O(N) invariant systems 186 (1990) 249
Christillin, P., Nuclear photoreactions at intermediate energies 190 (1990) 63
Cummins, H.Z., Experimental studies of structurally incommensurate crystal phases 185 (1990) 211

Dadhich, N., *see* S.M. Wagh 183 (1989) 137
Dalton, B.J., *see* P.L. Knight 190 (1990) 1
David, D., D.D. Holm and M.V. Tratnik, Hamiltonian chaos in nonlinear optical polarization dynamics 187 (1990) 281
David, F., Random surfaces and the statistics of membranes 184 (1989) 221
Davydov, A.S., Theoretical investigation of high-temperature superconductivity 190 (1990) 191
De Oliveira, A.K.G., *see* W.B. Bonnor 181 (1989) 269
Derrida, B., Dynamical phase transitions and spin glasses 184 (1989) 207
Dover, C.B., D.J. Millener and A. Gal, On the production and spectroscopy of Σ hypernuclei 184 (1989) 1
Dubovik, V.M. and V.V. Tugushev, Toroid moments in electrodynamics and solid-state physics 187 (1990) 145
Dubrovskii, G.V., *see* A.V. Bogdanov 181 (1989) 121
Duplantier, B., Two-dimensional fractal geometry, critical phenomena and conformal invariance 184 (1989) 229

Elze, H.-T. and U. Heinz, Quark–gluon transport theory 183 (1989) 81
Epstein, H. and D. Ruelle, Test of a probabilistic model of evolutionary success 184 (1989) 289
Erukhimov, L.M., *see* L.G. Genkin 186 (1990) 97

Fernández de Córdoba, P., *see* E. Oset 188 (1990) 79
Ferrario, C., *see* G. Morandi 188 (1990) 147
Friedrich, H. and D. Wintgen, The hydrogen atom in a uniform magnetic field – an example of chaos 183 (1989) 37

Gaeta, G., Bifurcation and symmetry breaking 189 (1990) 1
Gal, A., *see* C.B. Dover 184 (1989) 1
Geerlings, J.J.C., *see* J. Los 190 (1990) 133
Genkin, L.G. and L.M. Erukhimov, Interplanetary plasma irregularities and ion acoustic turbulence 186 (1990) 97
Gervais, J.L., General approach to two-dimensional critical systems 184 (1989) 121
Giazotto, A., Interferometric detection of gravitational waves 182 (1989) 365
Gladkov, S.O., The kinetics of nuclear magnetically ordered systems 182 (1989) 211
Gorbachev, Yu.E., *see* A.V. Bogdanov 181 (1989) 121
Gurevich, Yu.G. and O.L. Mashkevich, The electron–phonon drag and transport phenomena in semiconductors 181 (1989) 327

Hakim, V., Diffusion-controlled interface dynamics 184 (1989) 259
Heinz, U., *see* H.-T. Elze 183 (1989) 81
Hewett, J.L. and T.G. Rizzo, Low-energy phenomenology of superstring -inspired E_6 models 183 (1989) 193
Holm, D.D., *see* D. David 187 (1990) 281
Hussein, M.S., *see* M.P. Pato 189 (1990) 127

Itzykson, C., S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds, Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop 184 (1989) 99

Jackson, A.D., *see* L. Vepstas 187 (1990) 109

Kirkpatrick, S., *see* C. Itzykson 184 (1989) 99
Klucharev, A.N. and V. Vujnović, Chemi-ionization in thermal -energy binary collisions of optically excited atoms 185 (1990) 55
Knight, P.L., M.A. Lauder and B.J. Dalton, Laser-induced continuum structure 190 (1990) 1
Kovrizhnykh, L.M., *see* S.V. Bulanov 186 (1990) 1
Kumar, A., Soliton dynamics in a monomode optical fibre 187 (1990) 63
Kusmartsev, F.V., Application of catastrophe theory to molecules and solitons 183 (1989) 1

Lauder, M.A., *see* P.L. Knight 190 (1990) 1
Leibler, S., An introduction to the statistical mechanics of fluctuating membranes 184 (1989) 265
Levin, E.M. and M.G. Ryskin, High energy hadron collisions in QCD 189 (1990) 267
Lewin, J.D., *see* P.F. Smith 187 (1990) 203
Lo Vecchio, G., *see* G. Morandi 188 (1990) 147
Los, J. and J.J.C. Geerlings, Charge exchange in atom–surface collisions 190 (1990) 133
Lusanna, L., An enlarged phase space for finite-dimensional constrained systems, unifying their Lagrangian phase- and velocity -space descriptions 185 (1990) 1

Maalampi, J. and M. Roos, Physics of mirror fermions 186 (1990) 53
Marinari, E., Deconfinement in QCD: an analysis of the phase transition 184 (1989) 131
Marmo, G., *see* G. Morandi 188 (1990) 147
Mashkevich, O.L., *see* Yu.G. Gurevich 181 (1989) 327
McCauley, J.L., Introduction to multifractals in dynamical systems theory and fully developed fluid turbulence 189 (1990) 225

Mészáros, P., *see* G.G. Pavlov 182 (1989) 187
Metag, V., *see* W. Cassing 188 (1990) 363
Mikhailov, A.S., Selected topics in fluctuational kinetics of reactions 184 (1989) 307
Millener, D.J., *see* C.B. Dover 184 (1989) 1
Mitchell, J.B.A., The dissociative recombination of molecular ions 186 (1990) 215
Morandi, G., C. Ferrario, G. Lo Vecchio, G. Marmo and C. Rubano, The inverse problem in the calculus of variations and the geometry of the tangent bundle 188 (1990) 147
Mosel, U., *see* W. Cassing 188 (1990) 363
Mulders, P.J., Modifications of nucleons in nuclei and other consequences of the quark substructure 185 (1990) 83

Nakamura, H., *see* A. Ohsaki 187 (1990) 1
Nasonov, N.N., *see* F.G. Bass 189 (1990) 165
Nesterov, M.M. and N.A. Tarasov, Semiclassical approach to the description of nuclear reactions with fast particles 185 (1990) 171
Niehaus, A., Spontaneous electron emission from slow atomic collisions 186 (1990) 149
Niemi, A.J., Pedagogical introduction to BRST 184 (1989) 147
Niita, K., *see* W. Cassing 188 (1990) 363

Ohsaki, A. and H. Nakamura, Hyperspherical coordinate approach to atom–diatom chemical reactions in the sudden and adiabatic approximations 187 (1990) 1
Olive, K.A., Inflation 190 (1990) 307
Oset, E., P. Fernández de Córdoba, L.L. Salcedo and R. Brockmann, Decay modes of sigma and lambda hypernuclei 188 (1990) 79

Padmanabhan, T., Statistical mechanics of gravitating systems 188 (1990) 285
Parisi, G., *see* C. Itzykson 184 (1989) 99
Parisi, G., Networks in immunology 184 (1989) 283
Pato, M.P. and M.S. Hussein, SAM revisited: absorptive uniform semiclassical approximation and application to heavy-ion elastic scattering 189 (1990) 127
Pavlov, G.G., Yu.A. Shibanov and P. Mészáros, Comptonization in strongly magnetized and nonmagnetized plasmas 182 (1989) 187
Peliti, L., Fluctuations in solid and hexatic membranes 184 (1989) 271
Pietronero, L., Theoretical concepts for fractal growth 184 (1989) 273
Pruisken, A.M.M., Delocalization in the quantum Hall regime 184 (1989) 213

Riska, D.O., Exchange currents 181 (1989) 207
Rizzo, T.G., *see* J.L. Hewett 183 (1989) 193
Roos, M., *see* J. Maalampi 186 (1990) 53
Rubano, C., *see* G. Morandi 188 (1990) 147
Ruelle, D., *see* H. Epstein 184 (1989) 289
Ryskin, M.G., *see* E.M. Levin 189 (1990) 267

Sagnotti, A., Closed strings and their open-string descendants 184 (1989) 167
Sakharov, A.S., *see* S.V. Bulanov 186 (1990) 1
Salcedo, L.L., *see* E. Oset 188 (1990) 79
Saleur, H., Lattice models and conformal field theories 184 (1989) 177
Santos, N.O., *see* W.B. Bonnor 181 (1989) 269

Schlottmann, P., Some exact results for dilute mixed-valent and heavy-fermion systems 181 (1989) 1
Schramm, D.N. and J. W. Truran, New physics from Supernova 1987A 189 (1990) 89
Sherrington, D. and K. Wong, Random boolean networks for autoassociative memory 184 (1989) 293
Shibanov, Yu.A., *see* G.G. Pavlov 182 (1989) 187
Smirnov, B.M., The properties of fractal clusters 188 (1990) 1
Smith, P.F. and J.D. Lewin, Dark matter detection 187 (1990) 203
Sourlas, N., *see* C. Itzykson 184 (1989) 99
Strelchenya, V.M., *see* A.V. Bogdanov 181 (1989) 121

Tarasov, N.A., *see* M.M. Nesterov 185 (1990) 171
Tratnik, M.V., *see* D. David 187 (1990) 281
Truran, J.W., *see* D.N. Schramm 189 (1990) 89
Tugushev, V.V., *see* V.M. Dubovik 187 (1990) 145

Vepstas, L. and A.D. Jackson, Justifying the chiral bag 187 (1990) 109
Virasoro, M.A., *see* C. Itzykson 184 (1989) 99
Virasoro, M.A., Categorization in neural networks and prosopagnosia 184 (1989) 301
Vujnović, V., *see* A.N. Klucharev 185 (1990) 55

Wagh, S.M. and N. Dadhich, The energetics of black holes in electromagnetic fields by the Penrose process 183 (1989) 137
Wintgen, D., *see* H. Friedrich 183 (1989) 37
Wong, K., *see* D. Sherrington 184 (1989) 293

SUBJECT INDEX

General

Radiating spherical collapse, W.B. Bonnor, A.K.G. de Oliveira and N.O. Santos 181 (1989) 269
Interferometric detection of gravitational waves, A. Giazotto 182 (1989) 365
Application of catastrophe theory to molecules and solitons, F.V. Kusmartsev 183 (1989) 1
The energetics of black holes in electromagnetic fields by the Penrose process, S.M. Wagh and N. Dadhich 183 (1989) 137
Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop, C. Itzykson, S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds 184 (1989) 99
Random surfaces and the statistics of membranes, F. David 184 (1989) 221
Two-dimensional fractal geometry, critical phenomena and conformal invariance, B. Duplantier 184 (1989) 229
Diffusion-controlled interface dynamics, V. Hakim 184 (1989) 259
An introduction to the statistical mechanics of fluctuating membranes, S. Leibler 184 (1989) 265
Fluctuations in solid and hexatic membranes, L. Peliti 184 (1989) 271
Theoretical concepts for fractal growth, L. Pietronero 184 (1989) 273
Selected topics in fluctuational kinetics of reactions, A.S. Mikhailov 184 (1989) 307
An enlarged phase space for finite-dimensional constrained systems, unifying their Lagrangian phase- and velocity-space descriptions, L. Lusanna 185 (1990) 1
Large-N expansions in quantum mechanics, atomic physics and some O(N) invariant systems, A. Chatterjee 186 (1990) 249
Dark matter detection, P.F. Smith and J.D. Lewin 187 (1990) 203
Hamiltonian chaos in nonlinear optical polarization dynamics, D. David, D.D. Holm and M.V. Tratnik 187 (1990) 281
The properties of fractal clusters, B.M. Smirnov 188 (1990) 1
The inverse problem in the calculus of variations and the geometry of the tangent bundle, G. Morandi, C. Ferrario, G. Lo Vecchio, G. Marmo and C. Rubano 188 (1990) 147
Statistical mechanics of gravitating systems, T. Padmanabhan 188 (1990) 285
Bifurcation and symmetry breaking, G. Gaeta 189 (1990) 1
Introduction to multifractals in dynamical systems theory and fully developed fluid turbulence, J.L. McCauley 189 (1990) 225

The physics of elementary particles and fields

Exchange currents, D.O. Riska 181 (1989) 207
Chiral gauge theory, R.D. Ball 182 (1989) 1
Quark–gluon transport theory, H.-T. Elze and U. Heinz 183 (1989) 81
Low-energy phenomenology of superstring-inspired E_6 models, J.L. Hewett and T.G. Rizzo 183 (1989) 193
On the production and spectroscopy of Σ hypernuclei, C.B. Dover, D.J. Millener and A. Gal 184 (1989) 1

Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop, C. Itzykson, S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds 184 (1989) 99
Gravity from strings, D. Amati 184 (1989) 105
The three-dimensional Ising model and superstring theory, A. Bilal 184 (1989) 113
General approach to two-dimensional critical systems, J.L. Gervais 184 (1989) 121
Deconfinement in QCD: an analysis of the phase transition, E. Marinari 184 (1989) 131
Pedagogical introduction to BRST, A.J. Niemi 184 (1989) 147
Closed strings and their open-string descendants, A. Sagnotti 184 (1989) 167
Lattice models and conformal field theories, H. Saleur 184 (1989) 177
An enlarged phase space for finite-dimensional constrained systems, unifying their Lagrangian phase- and velocity-space descriptions, L. Lusanna 185 (1990) 1
Modifications of nucleons in nuclei and other consequences of the quark substructure, P.J. Mulders 185 (1990) 83
Physics of mirror fermions, J. Maalampi and M. Roos 186 (1990) 53
Decay modes of sigma and lambda hypernuclei, E. Oset, P. Fernández de Córdoba, L.L. Salcedo and R. Brockmann 188 (1990) 79
The inverse problem in the calculus of variations and the geometry of the tangent bundle, G. Morandi, C. Ferrario, G. Lo Vecchio, G. Marmo and C. Rubano 188 (1990) 147
Bifurcation and symmetry breaking, G. Gaeta 189 (1990) 1
New physics from Supernova 1987A, D.N. Schramm and J. W. Truran 189 (1990) 89
High energy hadron collisions in QCD, E.M. Levin and M.G. Ryskin 189 (1990) 267
Inflation, K.A. Olive 190 (1990) 307

Nuclear physics

Exchange currents, D.O. Riska 181 (1989) 207
On the production and spectroscopy of Σ hypernuclei, C.B. Dover, D.J. Millener and A. Gal 184 (1989) 1
Modifications of nucleons in nuclei and other consequences of the quark substructure, P.J. Mulders 185 (1990) 83
Semiclassical approach to the description of nuclear reactions with fast particles, M.M. Nesterov and N.A. Tarasov 185 (1990) 171
Justifying the chiral bag, L. Vepstas and A.D. Jackson 187 (1990) 109
Decay modes of sigma and lambda hypernuclei, E. Oset, P. Fernández de Córdoba, L.L. Salcedo and R. Brockmann 188 (1990) 79
Production of energetic particles in heavy-ion collisions, W. Cassing, V. Metag, U. Mosel and K. Niita 188 (1990) 363
SAM revisited: absorptive uniform semiclassical approximation and application to heavy-ion elastic scattering, M.P. Pato and M.S. Hussein 189 (1990) 127
High energy hadron collisions in QCD, E.M. Levin and M.G. Ryskin 189 (1990) 267
Nuclear photoreactions at intermediate energies, P. Christillin 190 (1990) 63

Atomic and molecular physics

Theory of vibrational and rotational excitation of polyatomic molecules, A.V. Bogdanov, G.V. Dubrovskii, Yu.E. Gorbachev and V.M. Strelchenya 181 (1989) 121

Application of catastrophe theory to molecules and solitons, F.V. Kusmartsev 183 (1989) 1
The hydrogen atom in a uniform magnetic field – an example of chaos, H. Friedrich and D. Wintgen 183 (1989) 37
Chemi-ionization in thermal-energy binary collisions of optically excited atoms, A.N. Klucharev and V. Vujnović 185 (1990) 55
Spontaneous electron emission from slow atomic collisions, A. Niehaus 186 (1990) 149
The dissociative recombination of molecular ions, J.B.A. Mitchell 186 (1990) 215
Large-N expansions in quantum mechanics, atomic physics and some O(N) invariant systems, A. Chatterjee 186 (1990) 249
Hyperspherical coordinate approach to atom–diatom chemical reactions in the sudden and adiabatic approximations, A. Ohsaki and H. Nakamura 187 (1990) 1
Laser-induced continuum structure, P.L. Knight, M.A. Lauder and B.J. Dalton 190 (1990) 1
Charge exchange in atom–surface collisions, J. Los and J.J.C. Geerlings 190 (1990) 133

Classical areas of phenomenology (including applications)

Radiating spherical collapse, W.B. Bonnor, A.K.G. de Oliveira and N.O. Santos 181 (1989) 269
Selected topics in fluctuational kinetics of reactions, A.S. Mikhailov 184 (1989) 307
Soliton dynamics in a monomode optical fibre, A. Kumar 187 (1990) 63
Toroid moments in electrodynamics and solid-state physics, V.M. Dubovik and V.V. Tugushev 187 (1990) 145
Hamiltonian chaos in nonlinear optical polarization dynamics, D. David, D.D. Holm and M.V. Tratnik 187 (1990) 281
Introduction to multifractals in dynamical systems theory and fully developed fluid turbulence, J.L. McCauley 189 (1990) 225

Fluids, plasmas and electric discharges

Comptonization in strongly magnetized and nonmagnetized plasmas, G.G. Pavlov, Yu.A. Shibanov and P. Mészáros 182 (1989) 187
Regular mechanisms of electron and ion acceleration in the interaction of strong electromagnetic waves with a plasma, S.V. Bulanov, L.M. Kovrizhnykh and A.S. Sakharov 186 (1990) 1
Interplanetary plasma irregularities and ion acoustic turbulence, L.G. Genkin and L.M. Erukhimov 186 (1990) 97

Condensed matter: structure, thermal and mechanical properties

The electron–phonon drag and transport phenomena in semiconductors, Yu.G. Gurevich and O.L. Mashkevich 181 (1989) 327
Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop, C. Itzykson, S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds 184 (1989) 99
Problems and issues in the RVB theory of high T_c superconductivity, P.W. Anderson 184 (1989) 195
Dynamical phase transitions and spin glasses, B. Derrida 184 (1989) 207

Delocalization in the quantum Hall regime, A.M.M. Pruisken 184 (1989) 213
Experimental studies of structurally incommensurate crystal phases, H.Z. Cummins 185 (1990) 211

Condensed matter: electronic structure, electrical, magnetic and optical properties

Some exact results for dilute mixed-valent and heavy-fermion systems, P. Schlottmann 181 (1989) 1
The kinetics of nuclear magnetically ordered systems, S.O. Gladkov 182 (1989) 211
Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop, C. Itzykson, S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds 184 (1989) 99
Problems and issues in the RVB theory of high T_c superconductivity, P.W. Anderson 184 (1989) 195
Dynamical phase transitions and spin glasses, B. Derrida 184 (1989) 207
Delocalization in the quantum Hall regime, A.M.M. Pruisken 184 (1989) 213
Toroid moments in electrodynamics and solid-state physics, V.M. Dubovik and V.V. Tugushev 187 (1990) 145
Nonlinear electromagnetic–spin waves, F.G. Bass and N.N. Nasonov 189 (1990) 165
Theoretical investigation of high-temperature superconductivity, A.S. Davydov 190 (1990) 191

Cross-disciplinary physics and related areas of science and technology

Common trends in statistical physics and field theory, Proc. Cargèse Advanced Research Workshop, C. Itzykson, S. Kirkpatrick, G. Parisi, N. Sourlas and M.A. Virasoro, eds 184 (1989) 99
Networks in immunology, G. Parisi 184 (1989) 283
Test of a probabilistic model of evolutionary success, H. Epstein and D. Ruelle 184 (1989) 289
Random boolean networks for autoassociative memory, D. Sherrington and K. Wong 184 (1989) 293
Categorization in neural networks and prosopagnosia, M.A. Virasoro 184 (1989) 301
Selected topics in fluctuational kinetics of reactions, A.S. Mikhailov 184 (1989) 307

Geophysics, astronomy and astrophysics

Comptonization in strongly magnetized and nonmagnetized plasmas, G.G. Pavlov, Yu.A. Shibanov and P. Mészáros 182 (1989) 187
The energetics of black holes in electromagnetic fields by the Penrose process, S.M. Wagh and N. Dadhich 183 (1989) 137
Interplanetary plasma irregularities and ion acoustic turbulence, L.G. Genkin and L.M. Erukhimov 186 (1990) 97
Dark matter detection, P.F. Smith and J.D. Lewin 187 (1990) 203
New physics from Supernova 1987A, D.N. Schramm and J. W. Truran 189 (1990) 89
Inflation, K.A. Olive 190 (1990) 307

MASTER INDEX

Volumes 191–200

AUTHOR INDEX

Abrikosov, A.A., T.A. Leskova and D.L. Mills, eds, Electromagnetic interactions in condensed matter, a Festschrift volume of Physics Reports on the occasion of the 60th birthday of Professor V.M. Agranovich 194 (1990) 239
Alber, G. and P. Zoller, Laser excitation of electronic wave packets in Rydberg atoms 199 (1991) 231
Aronov, I.E. and O.N. Baranetz, Cyclotron parametric resonance in semiconductors 197 (1990) 99

Baranetz, O.N., *see* I.E. Aronov 197 (1990) 99
Basharov, A.M., *see* A.I. Maimistov 191 (1990) 1
Botermans, W. and R. Malfliet, Quantum transport theory of nuclear matter 198 (1990) 115
Bouchaud, J.P. and A. Georges, Anomalous diffusion in disordered media: statistical mechanisms, models and physical applications 195 (1990) 127
Brosa, U., S. Grossmann and A. Müller, Nuclear scission 197 (1990) 167

Camporesi, R., Harmonic analysis and propagators on homogeneous spaces 196 (1990) 1
Caprihan, A. and E. Fukushima, Flow measurements by NMR 198 (1990) 195

De Kluiver, H., N.F. Perepelkin and A. Hirose, Experimental results on current-driven turbulence in plasmas – a survey 199 (1991) 281
De Pater, I., The significance of microwave observations for the planets 200 (1991) 1
Drijard, D., *see* W.M. Geist 197 (1990) 263
Drożdż, S., S. Nishizaki, J. Speth and J. Wambach, The nuclear response within extended RPA theories 197 (1990) 1

Eichler, J., Theory of relativistic ion–atom collisions 193 (1990) 165
Ellis, N. and A. Kernan, Heavy quark production at the CERN $p\bar{p}$ collider 195 (1990) 23
Elyutin, S.O., *see* A.I. Maimistov 191 (1990) 1

Fukushima, E., *see* A. Caprihan 198 (1990) 195

García-Moliner, F. and V.R. Velasco, Matching methods for single and multiple interfaces: discrete and continuous media 200 (1991) 83
Geist, W.M., D. Drijard, A. Putzer, R. Sosnowski and D. Wegener, Hadronic production of particles at large transverse momentum: its relevance to hadron structure, parton fragmentation and scattering 197 (1990) 263
Georges, A., *see* J.P. Bouchaud 195 (1990) 127
Gromes, D., *see* W. Lucha 200 (1991) 127
Grossmann, S., *see* U. Brosa 197 (1990) 167

Hirose, A., *see* H. de Kluiver 199 (1991) 281
Holmes, P., Poincaré, celestial mechanics, dynamical-systems theory and "chaos" 193 (1990) 137
Horn, T.C.M., *see* A.W. Kleyn 199 (1991) 191
Horton, W., Nonlinear drift waves and transport in magnetized plasma 192 (1990) 1

Igarashi, M., K.-I. Kubo and K. Yagi, Two-nucleon transfer reaction mechanisms 199 (1991) 1
Ivanov, B.A., *see* A.M. Kosevich 194 (1990) 117

Izrailev, F.M., Simple models of quantum chaos: spectrum and eigenfunctions 196 (1990) 299

Kernan, A., *see* N. Ellis 195 (1990) 23
Kleyn, A.W. and T.C.M. Horn, Rainbow scattering from solid surfaces 199 (1991) 191
Komarov, F.F., *see* M.A. Kumakhov 191 (1990) 289
Kosevich, A.M., B.A. Ivanov and A.S. Kovalev, Magnetic solitons 194 (1990) 117
Kovalev, A.S., *see* A.M. Kosevich 194 (1990) 117
Kubo, K.-I., *see* M. Igarashi 199 (1991) 1
Kumakhov, M.A. and F.F. Komarov, Multiple reflection from surface X-ray optics 191 (1990) 289

Lequeux, J. and E. Roueff, Interstellar molecules 200 (1991) 241
Leskova, T.A., *see* A.A. Abrikosov 194 (1990) 239
Lin, D.M. and E.K. Wong, A survey on the maximum entropy method and parameter spectral estimation 193 (1990) 41
Lucha, W., F.F. Schöberl and D. Gromes, Bound states of quarks 200 (1991) 127

Maimistov, A.I., A.M. Basharov, S.O. Elyutin and Yu.M. Sklyarov, Present state of self-induced transparency theory 191 (1990) 1
Malfliet, R., *see* W. Botermans 198 (1990) 115
Mangano, M.L. and S.J. Parke, Multi-parton amplitudes in gauge theories 200 (1991) 301
Marsden, J.E., *see* J.C. Simo 193 (1990) 279
Melott, A.L., The topology of large-scale structure in the universe 193 (1990) 1
Migdal, A.B., E.E. Saperstein, M.A. Troitsky and D.N. Voskresensky, Pion degrees of freedom in nuclear matter 192 (1990) 177
Miller, G.A., B.M.K. Nefkens and I. Šlaus, Charge symmetry, quarks and mesons 194 (1990) 1
Mills, D.L., *see* A.A. Abrikosov 194 (1990) 239
Müller, A., *see* U. Brosa 197 (1990) 167

Nefkens, B.M.K., *see* G.A. Miller 194 (1990) 1
Nishizaki, S., *see* S. Drożdż 197 (1990) 1

Parke, S.J., *see* M.L. Mangano 200 (1991) 301
Perepelkin, N.F., *see* H. de Kluiver 199 (1991) 281
Posbergh, T.A., *see* J.C. Simo 193 (1990) 279
Poth, H., Electron cooling: theory, experiment, application 196 (1990) 135
Putzer, A., *see* W.M. Geist 197 (1990) 263

Raffelt, G.G., Astrophysical methods to constrain axions and other novel particle phenomena 198 (1990) 1
Roueff, E., *see* J. Lequeux 200 (1991) 241

Saperstein, E.E., *see* A.B. Migdal 192 (1990) 177
Satchler, G.R., Heavy-ion scattering and reactions near the Coulomb barrier and "threshold anomalies" 199 (1991) 147
Schöberl, F.F., *see* W. Lucha 200 (1991) 127
Schön, G. and A.D. Zaikin, Quantum coherent effects, phase transitions, and the dissipative dynamics of ultra small tunnel junctions 198 (1990) 237
Shapiro, J.A. and C.C. Taylor, The spacetime supersymmetric formulation of the string 191 (1990) 221
Shrivastava, K.N., Magnetic resonance in high-temperature superconductors 200 (1991) 51

Silberberg, R. and C.H. Tsao, Spallation processes and nuclear interaction products of cosmic rays 191 (1990) 351
Simo, J.C., T.A. Posbergh and J.E. Marsden, Stability of coupled rigid body and geometrically exact rods: block diagonalization and the energy–momentum method 193 (1990) 279
Sklyarov, Yu.M., *see* A.I. Maimistov 191 (1990) 1
Šlaus, I., *see* G.A. Miller 194 (1990) 1
Sosnowski, R., *see* W.M. Geist 197 (1990) 263
Speth, J., *see* S. Drożdż 197 (1990) 1

Taylor, C.C., *see* J.A. Shapiro 191 (1990) 221
Tran, T.M. and J.S. Wurtele, Free-electron laser simulation techniques 195 (1990) 1
Troitsky, M.A., *see* A.B. Migdal 192 (1990) 177
Tsao, C.H., *see* R. Silberberg 191 (1990) 351
Turner, M.S., Windows on the axion 197 (1990) 67

Uzer, T., Theories of intramolecular vibrational energy transfer 199 (1991) 73

Van der Mullen, J.A.M., Excitation equilibria in plasmas; a classification 191 (1990) 109
Velasco, V.R., *see* F. García-Moliner 200 (1991) 83
Voskresensky, D.N., *see* A.B. Migdal 192 (1990) 177

Wambach, J., *see* S. Drożdż 197 (1990) 1
Wegener, D., *see* W.M. Geist 197 (1990) 263
Weyer, H.J., Pion absorption in light nuclei 195 (1990) 295
Wong, E.K., *see* D.M. Lin 193 (1990) 41
Wurtele, J.S., *see* T.M. Tran 195 (1990) 1

Yagi, K., *see* M. Igarashi 199 (1991) 1

Zaikin, A.D., *see* G. Schön 198 (1990) 237
Zoller, P., *see* G. Alber 199 (1991) 231

SUBJECT INDEX

General

Multiple reflection from surface X-ray optics, M.A. Kumakhov and F.F. Komarov 191 (1990) 289
A survey on the maximum entropy method and parameter spectral estimation, D.M. Lin and E.K. Wong 193 (1990) 41
Poincaré, celestial mechanics, dynamical-systems theory and "chaos", P. Holmes 193 (1990) 137
Stability of coupled rigid body and geometrically exact rods: block diagonalization and the energy–momentum method, J.C. Simo, T.A. Posbergh and J.E. Marsden 193 (1990) 279
Anomalous diffusion in disordered media: statistical mechanisms, models and physical applications, J.P. Bouchaud and A. Georges 195 (1990) 127
Harmonic analysis and propagators on homogeneous spaces, R. Camporesi 196 (1990) 1
Electron cooling: theory, experiment, application, H. Poth 196 (1990) 135
Simple models of quantum chaos: spectrum and eigenfunctions, F.M. Izrailev 196 (1990) 299
Flow measurements by NMR, A. Caprihan and E. Fukushima 198 (1990) 195

The physics of elementary particles and fields

The spacetime supersymmetric formulation of the string, J.A. Shapiro and C.C. Taylor 191 (1990) 221
Charge symmetry, quarks and mesons, G.A. Miller, B.M.K. Nefkens and I. Šlaus 194 (1990) 1
Heavy quark production at the CERN $p\bar{p}$ collider, N. Ellis and A. Kernan 195 (1990) 23
Windows on the axion, M.S. Turner 197 (1990) 67
Hadronic production of particles at large transverse momentum: its relevance to hadron structure, parton fragmentation and scattering, W.M. Geist, D. Drijard, A. Putzer, R. Sosnowski and D. Wegener 197 (1990) 263
Astrophysical methods to constrain axions and other novel particle phenomena, G.G. Raffelt 198 (1990) 1
Bound states of quarks, W. Lucha, F.F. Schöberl and D. Gromes 200 (1991) 127
Multi-parton amplitudes in gauge theories, M.L. Mangano and S.J. Parke 200 (1991) 301

Nuclear physics

Spallation processes and nuclear interaction products of cosmic rays, R. Silberberg and C.H. Tsao 191 (1990) 351
Pion degrees of freedom in nuclear matter, A.B. Migdal, E.E. Saperstein, M.A. Troitsky and D.N. Voskresensky 192 (1990) 177
Charge symmetry, quarks and mesons, G.A. Miller, B.M.K. Nefkens and I. Šlaus 194 (1990) 1
Pion absorption in light nuclei, H.J. Weyer 195 (1990) 295
Electron cooling: theory, experiment, application, H. Poth 196 (1990) 135
The nuclear response within extended RPA theories, S. Drożdż, S. Nishizaki, J. Speth and J. Wambach 197 (1990) 1
Nuclear scission, U. Brosa, S. Grossmann and A. Müller 197 (1990) 167
Quantum transport theory of nuclear matter, W. Botermans and R. Malfliet 198 (1990) 115
Two-nucleon transfer reaction mechanisms, M. Igarashi, K.-I. Kubo and K. Yagi 199 (1991) 1

Heavy-ion scattering and reactions near the Coulomb barrier and "threshold anomalies", G.R. Satchler 199 (1991) 147
Bound states of quarks, W. Lucha, F.F. Schöberl and D. Gromes 200 (1991) 127

Atomic and molecular physics

Present state of self-induced transparency theory, A.I. Maimistov, A.M. Basharov, S.O. Elyutin and Yu.M. Sklyarov 191 (1990) 1
Excitation equilibria in plasmas; a classification, J.A.M. van der Mullen 191 (1990) 109
Theory of relativistic ion–atom collisions, J. Eichler 193 (1990) 165
Theories of intramolecular vibrational energy transfer, T. Uzer 199 (1991) 73
Rainbow scattering from solid surfaces, A.W. Kleyn and T.C.M. Horn 199 (1991) 191
Laser excitation of electronic wave packets in Rydberg atoms, G. Alber and P. Zoller 199 (1991) 231
Matching methods for single and multiple interfaces: discrete and continuous media, F. García-Moliner and V.R. Velasco 200 (1991) 83

Classical areas of phenomenology (including applications)

Multiple reflection from surface X-ray optics, M.A. Kumakhov and F.F. Komarov 191 (1990) 289
Free-electron laser simulation techniques, T.M. Tran and J.S. Wurtele 195 (1990) 1

Fluids, plasmas and electric discharges

Excitation equilibria in plasmas; a classification, J.A.M. van der Mullen 191 (1990) 109
Nonlinear drift waves and transport in magnetized plasma, W. Horton 192 (1990) 1
Free-electron laser simulation techniques, T.M. Tran and J.S. Wurtele 195 (1990) 1
Experimental results on current-driven turbulence in plasmas – a survey, H. de Kluiver, N.F. Perepelkin and A. Hirose 199 (1991) 281

Condensed matter: electronic structure, electrical, magnetic and optical properties

Magnetic solitons, A.M. Kosevich, B.A. Ivanov and A.S. Kovalev 194 (1990) 117
Electromagnetic interactions in condensed matter, a Festschrift volume of Physics Reports on the occasion of the 60th birthday of Professor V.M. Agranovich, A.A. Abrikosov, T.A. Leskova and D.L. Mills, eds 194 (1990) 239
Cyclotron parametric resonance in semiconductors, I.E. Aronov and O.N. Baranetz 197 (1990) 99
Quantum coherent effects, phase transitions, and the dissipative dynamics of ultra small tunnel junctions, G. Schön and A.D. Zaikin 198 (1990) 237
Magnetic resonance in high-temperature superconductors, K.N. Shrivastava 200 (1991) 51

Cross-disciplinary physics and related areas of science and technology

Flow measurements by NMR, A. Caprihan and E. Fukushima 198 (1990) 195

Geophysics, astronomy and astrophysics

Spallation processes and nuclear interaction products of cosmic rays, R. Silberberg and C.H. Tsao	191	(1990)	351
The topology of large-scale structure in the universe, A.L. Melott	193	(1990)	1
Windows on the axion, M.S. Turner	197	(1990)	67
Astrophysical methods to constrain axions and other novel particle phenomena, G.G. Raffelt	198	(1990)	1
The significance of microwave observations for the planets, I. de Pater	200	(1991)	1
Interstellar molecules, J. Lequeux and E. Roueff	200	(1991)	241